Listing of Claims:

1. (Currently Amended) A chemical reactor comprising:

a first reaction section which has a first flow path ~~and causes~~ which is provided on a surface of a substrate and in which a first reaction ~~in the first flow path~~ is caused;

a heating section which heats the first reaction section; and

a second reaction section which has a second flow path ~~and causes~~ which is provided on said surface of the substrate and in which a second reaction ~~in the second flow path by~~ is caused using heat of the heating section transmitted via the first reaction section.

2. (Original) The chemical reactor according to claim 1, wherein the first reaction and the second reaction are different reactions.

3. (Original) The chemical reactor according to claim 1, wherein the second reaction is caused at a temperature lower than a temperature at which the first reaction is caused.

4. (Original) The chemical reactor according to claim 1, wherein the first flow path and the second flow path are coupled.

5. (Currently Amended) The chemical reactor according to claim 1, wherein the second reaction section ~~has~~ comprises a vaporization reaction section which vaporizes a generation fuel, and the first reaction section ~~has~~ comprises a reforming reaction section which reforms the vaporized generation fuel.

6. (Currently Amended) The chemical reactor according to claim 1, wherein the first reaction section ~~has~~ comprises a reforming reaction section which reforms ~~the~~ a generation fuel, and the second reaction section ~~has~~ comprises a carbon monoxide elimination section which eliminates carbon monoxide produced in the first reaction section.

Claim 7 (Canceled).

8. (Currently Amended) The chemical reactor according to claim [[7]] 1, wherein the heat of the heating section is transmitted from the first reaction section to the second reaction section via the substrate.

9. (Original) The chemical reactor according to claim 1, wherein a distance between the first flow path and the heating section is shorter than a distance between the second flow path and the heating section.

10. (Original) The chemical reactor according to claim 1, wherein the second flow path is disposed on a periphery of the first flow path.

11. (Original) The chemical reactor according to claim 1, further comprising a substrate in which grooves configuring the first flow path and the second flow path are formed.

12. (Original) The chemical reactor according to claim 1, wherein the first reaction section and the second reaction section are micro reactors.

13. (Currently Amended) The chemical reactor according to claim 1, further comprising:

a thermometer section which measures a temperature of the heating section.

14. (Currently Amended) The chemical reactor according to claim 13, further comprising:

a control circuit section which causes the heating section to generate heat based on ~~the basis of~~ temperature information ~~of~~ obtained by the thermometer section.

15. (Currently Amended) The chemical reactor according to claim 1, wherein the heating section ~~has~~ comprises a combustion section which performs heating by a combustion reaction.

16. (Currently Amended) The chemical reactor according to claim 15, ~~further comprising a substrate on which the first reaction section is formed, and~~ wherein the combustion reaction heats the first reaction section via the substrate.

17. (Currently Amended) The chemical reactor according to claim 1, wherein the heating section ~~has~~ comprises a resistive element.

18. (Currently Amended) The chemical reactor according to claim 1, further comprising:

a third reaction section which has a third flow path ~~and causes~~ in which a third reaction ~~in the third flow path by~~ is caused using the heat of the heating section that is transmitted via the second reaction section.

19. (Currently Amended) The chemical reactor according to claim 18, wherein the third reaction is caused at a temperature lower than ~~the~~ a temperature at which the first reaction is caused.

20. (Currently Amended) The chemical reactor according to claim 18, wherein the third reaction is caused at a temperature lower than ~~the~~ a temperature at which the second reaction is caused.

21. (Original) The chemical reactor according to claim 18, wherein the third flow path and the first flow path are coupled.

22. (Currently Amended) The chemical reactor according to claim 18, wherein the third reaction section ~~has~~ comprises a vaporization reaction section which vaporizes ~~the~~ a generation fuel, the first reaction section ~~has~~ comprises a reforming reaction section which reforms the vaporized generation fuel, and the second reaction section ~~has~~ comprises a carbon monoxide elimination section which eliminates carbon monoxide produced in the first reaction section.

23. (Currently Amended) The chemical reactor according to claim 18, ~~further comprising a single substrate on which~~ the first reaction section, the second reaction section and the third reaction section are formed on said substrate.

24. (Currently Amended) The chemical reactor according to claim 23, wherein the heat of the heating section is transmitted from the first reaction section to the second reaction section via the substrate, and is further transmitted from the second reaction section to the third reaction section via the substrate.

25. (Original) The chemical reactor according to claim 18, wherein a distance between the second flow path and the heating section is shorter than a distance between the third flow path and the heating section.

26. (Original) The chemical reactor according to claim 18, wherein the third flow path is disposed on a periphery of the second flow path.

27. (Currently Amended) A chemical reactor comprising:

a plurality of substrates including first and second substrates laminated on each other;

a first reaction section which has a first flow path, which is provided between the first substrate and the second substrate, and ~~causes~~ in which a first reaction is caused ~~in the first flow path~~;

a heating section which heats the first reaction section; and

a second reaction section which has a second flow path, which is provided between the first substrate and the second substrate, ~~or between the second substrate and another substrate adjacent to the second substrate,~~ and ~~causes~~ in which a second reaction ~~in the second flow path~~ is caused using heat from the heating section, said second reaction being caused at a temperature [[,]] which is lower than a temperature at which the first reaction is caused ~~, by the heating section~~.

28. (Currently Amended) A fuel cell system comprising:

(i) a chemical reactor, which comprises:

at least two substrates laminated on each other, including two adjacent substrates laminated on each other;

a first reaction section which has a first flow path, which is provided between the two adjacent substrates, and ~~causes~~ in which a first reaction is caused ~~in the first flow path~~;

a heating section which heats the first reaction section; and

a second reaction section which has a second flow path, which is provided between the two adjacent substrates, and ~~causes~~ in which a second reaction ~~in the second flow path~~ is caused using heat from the heating section, said second reaction being

caused at a temperature [[,]] which is lower than a temperature at which the first reaction is caused ~~, by the heating section~~; and

(ii) a fuel cell which generates electricity ~~by use of~~ using a fuel reformed by the chemical reactor.